

“aspect ratio” is added to more particularly point out and clearly define the invention. The expression “ratio of external perimeter to wall thickness” is an incorrect definition for aspect ratio. The correct definition is diameter/thickness (specification, page 5, lines 8-14).

Claim 34 has been added to recite that the aspect ratio is 100 or greater. Support in the specification for claim 34 is at page 14, line 24.

Claims 20-26 were cancelled to expedite allowance of the present application.

Claims 27-28, 30 and 33 were rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. 4,999,228 to Matsumoto et al. Applicants respectfully traverse this rejection.

In order for a document to anticipate a claimed invention, the document must teach every element recited in the claims. Matsumoto et al. do not teach a hollow chemical vapor deposited silicon carbide shell having an aspect ratio of 50 or greater (claim 1). Matsumoto et al. teach a diffusion tube composed of reaction-sintered silicon carbide coated with a thin film of high-purity silicon carbide (Matsumoto et al., col. 2, lines 34-51). No where do Matsumoto et al. teach a hollow shell composed entirely of chemical vapor deposited silicon carbide, let alone a hollow shell composed entirely of chemical vapor deposited silicon carbide having an aspect ratio of 50 or greater.

Since claims 28, 30 and 33 depend directly from claim 27, they also are not anticipated by Matsumoto et al.

Applicants respectfully request withdrawal of the rejection of claims 27-28, 30 and 33 under 35 U.S.C. § 102(b) over U.S. 4,999,228 to Matsumoto et al.

Claims 27-33 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. 5,904,778 to Lu et al. in view of U.S. 5,443,649 to Sibley. Applicants respectfully traverse this rejection.

Lu et al. alone or in combination with Sibley do not teach or suggest a hollow chemical vapor deposited silicon carbide shell having an aspect ratio of 50 or greater (claim 27). Lu et al. are directed to a sintered or hot-pressed silicon carbide article with a film coating of CVD or other type of deposited silicon carbide. No where do Lu et al. teach or suggest a hollow shell of chemical vapor deposited silicon carbide, let alone a hollow shell of chemical vapor deposited silicon carbide having an aspect ratio of 50 or greater. Lu et al. is totally silent on such a hollow shell.

Sibley does not make up for the deficiencies of Lu et al. Sibley also does not teach or suggest a hollow chemical vapor deposited silicon carbide shell having an aspect ratio of 50 or greater (claim 27). Sibley is totally silent on such a hollow shell and the dimensions of a chemical vapor deposited hollow shell. Sibley discloses a boat with orthogonal slots or grooves (Sibley, col. 4, lines 40-44, col. 6, line 15, and Fig. 1), not a hollow chemical vapor deposited silicon carbide shell having an aspect ratio of 50 or greater.

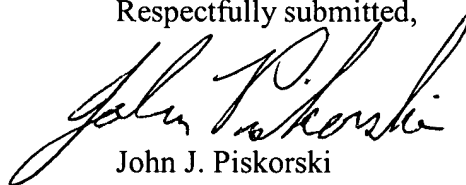
There would have been no reason or motivation to make a hollow chemical vapor deposited silicon carbide shell having an aspect ratio of 50 or greater in view of Lu et al. alone or in combination with Sibley. It is only by reading Applicants' disclosure that a person of skill in the art would have been motivated to make Applicants' claimed invention. Such is an improper basis for an obviousness rejection. Accordingly, claims 27-33 would not have been obvious over Lu et al. alone or in combination with Sibley.

Applicants respectfully request withdrawal of the rejection of claims 27-33 under 35 U.S.C § 103(a) over U.S. 5,904,778 to Lu et al. in view of U.S. 5,443,649 to Sibley.

Favorable consideration and allowance of claims 27-34 are earnestly solicited.

If the Examiner has any questions concerning this response or this application, or if he believes that this application is for any reason not yet in condition for allowance, he is respectfully requested to telephone the undersigned at the number set forth below in order to expedite allowance of the application.

Respectfully submitted,



John J. Piskorski
Attorney for Applicant
Registration No. 35,647
Telephone No.: (508) 229-7662
Facsimile No.: (508) 787-4730

Shipley Company
455 Forest Street
Marlborough, MA 01752

APPENDIX

27. A hollow chemical vapor deposited silicon carbide shell having an aspect ratio of 50 or greater.
28. The hollow chemical vapor deposited silicon carbide shell of claim 27 having a cylindrical shape.
29. The hollow chemical vapor deposited silicon carbide shell of claim 27 having a frustroconical shape.
30. The hollow chemical vapor deposited silicon carbide shell of claim 27, wherein the density of said chemical vapor deposited silicon carbide is at least 3.15 grams per cubic centimeter^{Me}.
31. The hollow chemical vapor deposited silicon carbide shell of claim 27, wherein an external perimeter of said hollow shell is in excess of 50 inches.
32. The hollow chemical vapor deposited silicon carbide shell of claim 27, wherein an external perimeter of said hollow shell is in excess of 65 inches.
33. The hollow chemical vapor deposited silicon carbide shell of claim 27, wherein said aspect ratio is 200 or greater.
34. The hollow chemical vapor deposited silicon carbide shell of claim 27, wherein said aspect ratio is 100 or greater.

VERSION WITH MARKINGS SHOWING CHANGES MADE

27. (Amended) A hollow chemical vapor deposited silicon carbide shell having ~~a~~an aspect ratio of ~~external perimeter to wall thickness greater than 50~~ or greater.
28. (Amended) The hollow chemical vapor deposited silicon carbide shell of claim 27 having a cylindrical shape.
29. (Amended) The hollow chemical vapor deposited silicon carbide shell of claim 27 having a frustroconical shape.
30. (Amended) The hollow chemical vapor deposited silicon carbide shell of claim 27, wherein the density of said chemical vapor deposited silicon carbide is at least 3.15 grams per cubic centimeter.
31. (Amended) The hollow chemical vapor deposited silicon carbide shell of claim 27, wherein ~~said~~an external perimeter of said hollow shell is in excess of 50 inches.
32. (Amended) The hollow chemical vapor deposited silicon carbide shell of claim 27, wherein ~~said~~an external perimeter of said hollow shell is in excess of 65 inches.
33. (Amended) The hollow chemical vapor deposited silicon carbide shell of claim 27, wherein said aspect ratio is 200 or greater.
34. (New) The hollow chemical vapor deposited silicon carbide shell of claim 27, wherein said aspect ratio is 100 or greater.